

Response to FCC Notice of Inquiry, GN Docket No. 09-51

“In the matter of a National Broadband Plan for Our Future”

On behalf of the Rural Telecommunications Congress

By Greg Laudeman, Rural Telecommunications Congress President, June 8, 2009

A. Approach to Developing the National Broadband Plan

The FCC and other policy-making bodies are well-advised to critically evaluate all policies in terms of their goals; to “keep your eyes on the prize,” so to speak. National broadband policy is no exception, indeed it is particularly important in this case: Broadband is the *means* to the policy goals, not the end or the goal itself. A problem that policy makers must address is that the focus has drifted, and broadband itself has become the goal.

This problem is exemplified by the phrase “access to broadband.” The goal is not access *to* broadband, but access *through* broadband, a fine but critical distinction: Access *through* broadband to consumer information, civic activities, safety and security resources, community development, healthcare, means of reducing energy consumption, education and training, entrepreneurial and investment opportunities, employment and economic growth. Such access *through* broadband requires computers and other hardware, support and training, and *software infrastructure*, e.g., websites, information, and applications that actually achieve the policy goals, as well as broadband services, to be *available* and *affordable*. There are three important implications of this:

1. Broadband is only one component of our nation’s system of information infrastructure, and is a component that constrains but does not determine the value of that infrastructure,
2. The value of information infrastructure is determined in use by citizens (“consumers”)—corporate and individual—as they provide and use services related to the policy goals, and
3. Applications and related software infrastructure are possibly the most essential component of our information infrastructure, determine the extent to which the policy goals can be met, and should be the basis for setting performance specifications for broadband

The overall implication is that broadband policy should be made not by those with an interest in broadband, but by those who are directly involved in the endeavors encompassed by the policy goals of a national broadband plan, and by those who provide the software, support and training components of the infrastructure. These groups make up the primary and secondary stakeholders for broadband policy. The role of those with a direct interest in broadband—public and private, local, state, regional, national, and international—should be to formulate and execute policies, programs, and services that meet the needs and support the success of the primary and secondary stakeholders.

It is strongly recommended that the FCC, along with other Federal agencies, essentially relocate from Washington, DC, to make this policy, in partnership with associations of primary and secondary stakeholder groups. Create a policy framework, and take that framework out to the “front line”—to persons working “on the ground” in each of the policy goal areas (section F, 1 through 11)—and ask

them to fill in the framework. Do this in conjunction with application providers (e.g., software companies), and with the support but only indirect participation of the broadband hardware and service providers. Then challenge the broadband hardware and service providers to fulfill the requirements of the policy developed by the primary (citizens) and secondary (applications providers) stakeholders.

B. Establishing Goals and Benchmarks

The capabilities of broadband are a function of capacity, flexibility, reliability—the performance factors—and cost. Capacity is simply how much data a broadband connection can accommodate. First, performance should be measured at the edge of the network, in terms of the citizen or consumer's experience. Issues such as symmetry and peak/off-peak, particularly as conceptualized by broadband providers, cloud this issue. A much simpler approach is needed. First, this should be a simpler metric such as *median* bandwidth, for both upload/download speed and peak/off-peak network conditions. Second, consumers should be actively engaged, and provided with tools, to measure and report on their experience. Flexibility is the rapidity with which the service may be reconfigured and/or moved, and reliability is how often the service goes down and how quickly it is re-established. Again, these should be measures of the citizens' experience.

FCC and other policy-makers are encouraged to use the terms *availability* and *affordability* to define “access” to broadband, and reserve the term “access” for how one uses broadband as an integrated component of the information infrastructure, i.e., to access information and services. Availability is a function of cost and performance. How much does it cost to get some combination of capacity, flexibility, and reliability? This will inevitably vary by geographic location. Conceptually, any level of broadband is available anywhere, but the cost will be prohibitively high in many locations and effectively nil in a few. This brings us to affordability, which is a ratio of availability (cost/performance) to household and/or corporate income. Both availability and affordability, as with other metrics, should be measured by the primary stakeholders, citizens. In summary, the key metrics for broadband are:

- **Availability** – Cost (one-time and on-going) per unit of capacity or other performance metrics such as flexibility, reliability, etc. Capacity, specifically, should be measured as median of upstream/downstream and peak/off-peak performance.
- **Affordability** – Ratio of broadband cost per performance unit (e.g., median megabits per second) to per capita income for households, and to revenue per employee for organizations.

Progress toward policy goals should be measured with these metrics. Procedures and programs should be designed to systematically gather this data. It is important to understand who provides broadband, how the service is being used, and other information infrastructure components (applications, data, hardware, skills, etc.) are being used in conjunction with broadband in order to facilitate market functioning. Markets run on information. Gathering supply- and demand-side information and making it publicly available will go a long way toward meeting policy goals for affordability, availability, and economic development.

C. Effective and Efficient Mechanisms for Ensuring Access

The quality of internet access is a function of capacity, flexibility, reliability, and other performance characteristics. These in combination with cost define availability. But it is critical for policy to be based on the understanding that availability does not equal access: Conceptually, high performance broadband could be available at low cost without ensuring access. Why? Internet access requires hardware, software, skills, and even a supportive socioeconomic context. Effective mechanisms for ensuring access will include all of these components. Generally, the most efficient mechanisms are market mechanisms when there is complete information about all information infrastructure components, low barriers to entry for providers and low costs for users, and clear benefits for all. Markets can fail when there is poor information, barriers, or uncertain benefits.

A primary goal of broadband policy should be to assure that valid, reliable information about all components of information infrastructure, not just broadband, is readily available. Second, broadband policy should minimize barriers to entry, particularly easements, rights of way, spectrum, and other basic resources. Both of these goals can be best addressed via an open information interchange, standards for information, and reporting incentives (for example, certain Federal assistance could be contingent on complete and verified reporting). Federal, state, and local entities must collaborate on basic facilities. The FCC should change spectrum licensing to accommodate local requirements, creating more unlicensed spectrum, considering local input in licensing decisions, reducing the size of geographic blocks, and allowing local review of assets such as towers. State and local entities must rationalize zoning and easement laws and regulations. For example, right of way holders should be allowed to include transmission lines in existing agreements for a reasonable compensation.

The third goal of broadband policy should be to assist those who for whom broadband internet access would serve to reduce social costs. Just as Lifeline service assures that all citizens have telephone access to emergency services, so “Lifeline broadband” could provide a “walled garden” of online essential services, access to education, healthcare, and safety/security services. In fact, all providers could allow any user to access these services but block access to all other resources and protocols. Such a policy approach would effectively address the Link-Up service equivalent because all citizens would have, by default, access to essential services through all broadband networks. The persistent issue is geographic isolation, which can be addressed by including satellite providers in the broadband mix. Federal (and, under a national broadband strategy, aligned state) assistance could be made available for participating providers to upgrade their network infrastructure.

The open network issue should be addressed via a return to principles of common carriage. All providers should indiscriminately carry traffic from other providers. Compensation should flow from the originating network to the terminating network, including transit networks. The internet protocol suite facilitates this approach, providing mechanisms and tools for such accounting. Overall regulatory mechanisms should be rationalized to pertain to all service providers. While it is reasonable to differentiate between broadcast media and common carriers, it is anachronistic and nonsensical to have different regulatory frameworks for cable television, cellular telephone, landline telephone, and satellite. All providers of interactive, two-way telecommunications services—including public and/or

not-for-profit organizations—should be covered by a coherent and consistent regulatory framework, which should include separation between carriage and content.

D. Affordability and Maximum Utilization

Affordability is addressed in some detail, above. Maximum utilization will be best fostered by assuring that all information infrastructure components—not just connectivity—are in place. Users need application software, data, hardware, and skills in order to make use of broadband. A national broadband policy must address such complementary investments. A primary driver of adoption and utilization, as well as major source of economic impacts, is utilization in private enterprises. People who make productive use of IT at work are more likely to use it productively outside work. Productive use of IT at work depends on solid business leadership and processes. Thus broadband policy should be developed and implemented in partnership with those who foster and promote these things: consultancies, industry and professional associations, technology companies, universities, etc. Generally, the challenge is to distribute knowledge about how to maximize utilization, and this is particularly true in rural areas. A coordinated, multi-level (federal, state, and local) public-private effort is most likely to overcome this challenge.

E. Status of Deployment

As discussed above deployment and performance should be measured at the network's edge, from the customer's perspective. Mapping should capture data about performance and costs at particular locations. State and local authorities—and enterprises—should be engage consumers to provide such data via web applications. Ideally, these mechanisms would be included in stimulus grant and loan programs.

F. Specific Policy Goals of the National Broadband Plan

The policy goals cited in this request for comments are:

- 1. Advancing Consumer Welfare**
- 2. Civic Participation**
- 3. Public Safety and Homeland Security**
- 4. Community Development**
- 5. Health Care Delivery**
- 6. Energy Independence and Efficiency**
- 7. Education**
- 8. Worker Training**
- 9. Private Sector Investment**
- 10. Entrepreneurial Activity**
- 11. Job Creation and Economic Growth**

These goals will not be directly accomplished via broadband. Rather, individuals, enterprises, and agencies, using broadband in conjunction with other components of information infrastructure, will achieve these goals. Broadband can provide the connective capacity, but that is only one piece of the puzzle—a limiting factor, not an enabling factor. These goals rely more on software infrastructure and

talent infrastructure than they do on broadband network infrastructure. The network must be aligned with and support the talent and software. Similarly, national broadband strategy should be driven and informed not by traditional telecommunications stakeholders, but by those enterprises that are consuming and producing the software and the talent.

Many major corporations have learned that barriers between departments and units are also barriers to return on investment in information technology and barriers to overall success. Just as such firms have integrated processes and deployed enterprise applications, so must our public and private sectors become more connected and integrated if our nation is to maintain its position as a global economic leader. The imperative is to focus on quality and value as defined by the customer. National broadband policy cannot accomplish this, but it cannot be successful without it, either. The opportunity is for the process of formulating a national broadband policy to provide a catalyst for a broader discussion about why broadband is essential, how to effectively develop abundant and complete information infrastructure, and maximize its impacts.

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